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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/392,264	09/09/1999	TOSHIHARU MORI	018656-085	9910

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BURNS DOANE SWECKER & MATHIS L L P
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER
PARKER, KENNETH

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 04/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/392,264	Applicant(s) Mori et al
	Examiner Kenneth Parker	Art Unit 2871

-- The MAILING DATE of this communication appears on the cover sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jan 11, 2002* .

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-22* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *3,4*

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> **The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

2. **Claims 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

What is meant by "dropwise" adding of liquid crystal cannot be determined. It is assumed that this is simply the pouring of the liquid crystal, as this is what the specification appears to show.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

3. Claim 1-12, 22 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Yoshinaga et al, U.S. Patent # 5,316,806.

This reference discloses a liquid crystal polymer which is cholesteric in grooves in a substrate. The liquid crystal had to be polymerized, and they do reflect light (cholesteric perform Bragg reflection according to their pitch. Therefore, these claims are anticipated by this reference.

4. Claim 1, 12, 18 and 22 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Sakakawa et al JP-10282324.

Sakawaka et al discloses UV hardened cholesteric liquid crystal in a groove on a substrate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akins, U.S. Patent # 5,399,390.

Lacking from the primary reference is the cholesteric liquid crystal being a polymer. Polymer liquid crystal were well known for improved stability over non-polymer liquid crystal, and would have been obvious to use for that reason. The secondary reference(s) provide evidence of this assertion. The listed optical elements were well known for providing their particular functions, and would have been obvious for that reason. The use of two LC layer of

opposite handedness was well known for enabling both handednesses of light to be used, and would have been obvious for that reason.

6. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over IBM tech disclosure NN86045000 in view of Davis et al , US patent # 6,043,861.

Lacking from the primary reference is the cholesteric liquid crystal being a polymer. Polymer liquid crystal were well known for improved stability over non-polymer liquid crystal, and would have been obvious to use for that reason. The secondary reference(s) provide evidence of this assertion. The listed optical elements were well known for providing their particular functions, and would have been obvious for that reason. The use of two LC layer of opposite handedness was well known for enabling both handednesses of light to be used, and would have been obvious for that reason.

7. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable Stotts, US patent #3,909113, in view of Davis et al , US patent # 6,043,861.

Lacking from the primary reference is the cholesteric liquid crystal being a polymer. Polymer liquid crystal were well known for improved stability over non-polymer liquid crystal,

and would have been obvious to use for that reason. The secondary reference(s) provide evidence of this assertion. The listed optical elements were well known for providing their particular functions, and would have been obvious for that reason. The use of two LC layer of opposite handedness was well known for enabling both handednesses of light to be used, and would have been obvious for that reason.

8. Claims 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fan,U.S. Patent # 6,106,743 in view of Kawasumi et al, U.S. Patent # 5,978,065, Kato et al, U.S. Patent # 6,011,609 and von Gutfeld, U.S. Patent #6,055,035.

Lacking from the disclosure is an indication that the lower substrate is mirror the application of the liquid crystal before applying the upper substrate. All LCD substrates were made mirror polished, as optical length imperfections were well known for disorienting the liqud crystal, and would have been obvious for that reason. The secondary references all teach that applying the liquid crystal before the upper substrate was an improved manufacturing technique for the reduction in cost, and therefore would have been obvious for that reason. The cutting with the below substrate and separating would have been obvious to make multiple LC panels, or to form a transfer type sheet, both of which were well known for low cost manufacturing and would have been obvious for that reason.

Any assertion that something is well known is a taking of official notice.

Note: Any assertions that an element, practice or relationship was conventional has the incorporated motivations of the benefits of having established supply chains, well understood behavior and manufacturing methodologies.

Response to Restriction

The restriction presented preiously in advertently left out the entire restriction itself. In order to expedite prosecution, the restriction has been dropped and all groups examined.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Parker whose telephone number is **(703) 305-6202.** The fax phone number for this Group is **(703) 308-7722.** Any inquiry of a general nature or relating to the status of this application or preceding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

April 8, 2002

KENNETH ALLEN PARKER
PRIMARY PATENT EXAMINER
GAU 2871